



Questions and Answers about Gray Wolves in North America

SECTION A - POPULATION STATUS

A1) What is the historical range of the gray wolf in the contiguous United States?

Before the arrival of European settlers, two species of wolves ranged widely across the continent, from coast to coast and from Canada into Mexico. The gray wolf lived throughout most of the United States with the exception of parts of the mid-Atlantic and Southeast, as well as Canada and the northern half of Mexico. The red wolf lived only in the mid-Atlantic and southeastern United States.

A2) Where are gray wolves currently found in the United States?

Within the lower 48 states, gray wolves are now found in three separate areas that are isolated from each other: the Midwest, West, and Southwest. Naturally occurring, wild gray wolf populations are found in the Great Lakes states of Michigan, Wisconsin, and Minnesota, and also in northwestern Montana and Northern Idaho. There are three reintroduced experimental populations: one in central Idaho; a second in the Greater Yellowstone National Park area and northwest Wyoming; and a third in New Mexico and Arizona.

The Service reintroduced wolves into areas with the greatest potential to sustain wild wolves. Because of high human population densities and development in many states, particularly in the East, many states that historically supported wolves are no longer suitable for wolf recovery.

The U.S. Fish and Wildlife Service designated the three geographical areas where wild gray wolves occur as Gray Wolf Distinct Population Segments (DPS). These Distinct Population Segments are the Eastern, Western, and Southwestern. Wolves in the Eastern and Western DPSs were reclassified from endangered to threatened. The status of wolves in the Southwestern DPS remains endangered. The nonessential experimental population areas that existed before the DPSs were designated remain in existence and are found within the Western and Southwestern DPSs.

A3) How many wild wolves are there in the United States?

Eastern Gray Wolf Distinct Population Segment (current as of late winter of 2001-2002)

Michigan - Upper Peninsula	278
- Isle Royale	17
Minnesota	2445 (1998 estimate*)
Wisconsin	323

*Minnesota does not conduct an annual survey.

Western Gray Wolf Distinct Population Segment (current as of December 2002)

Northern Rocky Mountain Gray Wolf - natural recovery
 Northwest Montana 108 (12 breeding packs)

Northern Rocky Mountain Gray Wolf - Experimental Populations
 Central Idaho 285 (9 breeding packs)
 Yellowstone ecosystem 271 (23 breeding packs)
 (Idaho/Wyoming/Montana)

Southwestern Gray Wolf Distinct Population Segment (current as of July 2002)

Mexican Gray Wolf - Experimental Population
 Arizona & New Mexico 21+ unknown number of pups **

** Since the reintroduction began in 1998, approximately 74 wolves have been released. Some of these have died or been killed and others have been returned to captivity.

Alaska (not protected by ESA) 6,000-8,000

A4) How are population estimates made for wolves?

Biologists monitor wolves and make population estimates using a combination of techniques. The primary methods are radio-telemetry, surveys for sign (tracks, scat, and snow urinations), and incidental observations. With radio telemetry, biologists attach a radio-signal transmitting collar to at least one individual in a pack. That wolf is subsequently located from an airplane, a ground station, or a satellite; the number of wolves that are traveling with it are counted, and the pack's territory can be accurately mapped.

Because of the expense, it is not feasible to radio-collar a wolf in every pack, so population trend surveys are also conducted. Trend surveys are based on ground and aerial tracking for sign in snow; counting visits to scent stations; counting packs by simulating howling to get a response; interviewing hunters, trappers, and resource professionals; and studying and mapping trends in livestock depredations.

SECTION B: GRAY WOLF RECOVERY**B1) What does "recovery" mean?**

Recovery is the goal of the Endangered Species Act (ESA). When a species has been recovered, it means that the species' population is strong enough that protection under the ESA is no longer needed. Recovery is a process of management and protection to increase and expand a species' population(s) and/or reduce threats to the species. After a species is listed as threatened or endangered, the U.S. Fish and Wildlife Service is required to prepare a recovery plan that identifies recovery activities, prioritizes those activities, and identifies recovery objectives. When those objectives are met, the species' status is then reviewed to determine if it should be reclassified from endangered to threatened or whether it should be removed from the list of threatened and endangered species. "Recovery" does not mean that a species is restored across its historical range; instead, it means the species has been pulled back from the brink of extinction and is not likely to become in danger of extinction in the foreseeable future.

B2) What is the recovery goal for the gray wolf in the lower 48 States?

The Service's ultimate recovery goal for the gray wolf is to increase its numbers and distribution to the extent that ESA protection is no longer necessary. ESA protections will no longer be necessary when the three gray wolf populations in the conterminous states are viable for the foreseeable future.

Current objectives for ensuring viable populations into the foreseeable future are identified in the recovery plans. Those objectives for gray wolves in the United States are listed below.

- ' Eastern Gray Wolf Distinct Population Segment
 - C The Minnesota population must be stable or growing and its continued survival assured.
 - C A second population outside of Minnesota and Isle Royale must be re-established, having at least 100 wolves in late winter if located within 100 miles of the Minnesota wolf population or having at least 200 wolves if located beyond that distance.
 - C Maintain the above-mentioned population levels (in the population outside of Minnesota) for five consecutive years (that is, for six annual wolf surveys).
 - C A Wisconsin-Michigan population of 100 is considered viable because continued immigration of Minnesota wolves will supplement it demographically and genetically for the foreseeable future.
- ' Western Gray Wolf Distinct Population Segment
 - C Thirty breeding pairs distributed throughout Montana, Idaho, and Wyoming for three successive years.
 - C The recovery areas are northwestern Montana, central Idaho, and Wyoming (the Greater Yellowstone ecosystem).
- ' Southwestern Gray Wolf Distinct Population Segment
 - C The preliminary recovery objective is to maintain the captive breeding program while establishing a self-sustaining wild population of at least 100 animals in the species' historical range. This recovery objective is currently under review.

B3) How close are we to achieving the recovery objectives in the Eastern Gray Wolf Distinct Population Segment?

All numerical recovery objectives for the Eastern Gray Wolf Distinct Population Segment have been met. We are now reviewing the status of these wolves and plan to propose to delist all or part of the Eastern Gray Wolf DPS. If this DPS is delisted, those wolves would no longer receive the protection of the ESA, but would be protected by the states and tribes in the areas where they live. A history of recovery progress in the Eastern Gray Wolf DPS follows.

Gray wolves were never extirpated from Minnesota, but were reduced to fewer than 1,000 animals before they were protected by the ESA. Since then they've steadily expanded in numbers and range. The Minnesota Department of Natural Resources (DNR) estimated the state wolf population at 2,445 animals during the winter of 1997-98 (the most recent survey). This represents an average annual increase of 4 to 5 percent since the previous statewide

survey was conducted in the winter of 1988-89. The State has completed a management plan for the wolf that establishes a minimum population goal of 1,600 wolves.

After extirpation in Wisconsin, wolves dispersing from Minnesota re-established themselves in northwestern Wisconsin during the late 1970s. The Wisconsin DNR has monitored their wolf population since 1979. During the mid-1980s wolf numbers in Wisconsin declined due to an epidemic of canine parvovirus. An experimental vaccine was developed, but it was never administered to wild wolves because the population apparently developed some degree of natural immunity. The Wisconsin DNR has provided wolf population estimates (late winter counts) annually for 1995 through 2002. Counts of 83, 99, 148, 178, 205, 248, and 257 wolves have been recorded comprising 18, 28, 35, 47, 57, 66, and 70 packs, respectively, through early 2001. An estimated 323 wolves in 81 packs were present in Wisconsin during the winter of 2001-2002. The Wisconsin DNR has completed a State management plan for the wolf which recommends maintaining a population of at least 350 wolves.

As wolves began re-establishing themselves in northern Wisconsin, the Michigan DNR Department of Natural Resources began reporting single wolf occurrences at various locations in the Upper Peninsula of Michigan. In the late 1980s, a wolf pair was verified and these wolves produced pups in 1991. Since that time wolf packs spread throughout the Upper Peninsula, with immigration from both Wisconsin and Ontario. The Michigan DNR monitors the wolf population annually and estimated that 80, 116, 112, 140, 174, 216, and 249 wolves occurred in the Upper Peninsula during late winter counts in 1995-2001, respectively. The late winter 2001-2002 estimate is 278 wolves. The Michigan DNR completed a state wolf management plan that recommends maintaining an Upper Peninsula wolf population of at least 200 animals.

Isle Royale, also a part of Michigan, has had an isolated population of gray wolves for over 50 years. Wolves are believed to have walked across frozen Lake Superior to the island from the Canadian shoreline in the winter of 1948-49. Since then, their numbers have fluctuated greatly due to a variety of factors, such as disease, the availability of moose; (their chief prey on the island), and possibly a high degree of inbreeding. Their numbers peaked at 50 in 1980 but had fallen to 14 in 1982, and dropped to as low as 12 wolves in four years around 1990. In the late winter of 1997-98 there were 14 wolves on Isle Royale, increasing to 29 in late winter 1999-2000, and now number 17. Due to the isolated nature and small size of the population, it is not considered to be numerically significant to the recovery of the gray wolf.

The 1992 Recovery Plan for the eastern gray wolf identified the Adirondack Park in upstate New York and two areas in New England as "areas with re-establishment possibilities." However, barriers such as the St. Lawrence River separate Canadian wolf populations further north from suitable habitat in the northeastern states (Maine and New York) so natural recolonization is unlikely. Several private conservation organizations are investigating the biological potential and societal acceptance of restoring wolves to New York and Maine.

B4) How close are we to achieving recovery objectives in the Western Gray Wolf DPS?

Wolves are naturally recovering in northwestern Montana where there are about 108 wolves. Those wolves re-established themselves after natural emigration from Canada into Montana. There is also evidence of recolonization of northern Idaho and individual wolves in the North Cascades Mountains of Washington emigrating from Canada.

Additionally, wild Canadian gray wolves were released as experimental populations in Yellowstone National Park, Wyoming, and in the Frank Church River of No Return Wilderness Area in Idaho in 1995 and 1996. These reintroduced wolves have done very well. Family groups of wolves were released in Yellowstone and individuals were released in central Idaho. An estimated 271 wolves now live in the Yellowstone area and at least 285 wolves live in central Idaho.

The 1987 recovery plan recommended that 10 pairs of wolves in three separate recovery areas in Montana, Idaho and Wyoming for three successive years would represent a viable wolf population that no longer needed Endangered Species Act protection. Subsequently, more detailed evaluations and extensive peer review indicated that a viable wolf population was better defined as 30 pairs of wolves that had successfully raised pups and were equitably distributed throughout the mountainous portions of Montana, Idaho, and Wyoming for three successive years. At the close of 2002, 44 breeding pairs – a total of 664 wolves – existed in the Western DPS. That represents the third year the number of wolves has been at or above 30 breeding pairs, and achieves the numerical and distribution recovery goals for wolves in the Western DPS.

B5) How close are we to achieving recovery objectives in the Southwestern Gray Wolf DPS?

The Southwestern gray wolf recovery program is in its infancy. Objectives for reclassification have been identified and when that point is reached, the Recovery Plan will be updated and delisting objectives developed.

The Southwestern recovery program centers on captive breeding and subsequent reintroductions. The captive breeding program includes 39 breeding facilities in the United States and Mexico that contribute wolves for reintroductions. The first reintroduction was in January 1998 when 13 wolves were transferred to remote sites in Apache National Forest. After undergoing acclimation in large enclosures for several weeks, the wolves were released in late March 1998, to disperse in a 7,000-square-mile recovery area. That area includes the Apache and Gila National Forests in Arizona and New Mexico

About 800,000 acres of the Gila National Forest in New Mexico, primarily within the Gila Wilderness, have no active cattle grazing allotments, are roadless, uninhabited, and have good elk populations. Through coordination with the U.S. Forest Service and the New Mexico Department of Game and Fish, four sites within the Gila Wilderness have been identified as potential relocation sites for recaptured Mexican wolves. Two packs, the Mule and the Pipestem, have been translocated into New Mexico. To date, approximately 74 Mexican wolves have been released into the wild, 21 of which remain free-ranging. Additional releases are planned to reach the goal of a wild population of 100 wolves. In early 2002 we signed an agreement with the White Mountain Apache Tribe to reestablish wolves on their 1.6 million-acre reservation.

B6) How were recovery objectives for the gray wolf developed?

Recovery objectives were developed by members of each recovery team, who are wolf experts or representatives of agencies managing wolf habitat. The recovery teams considered many factors including: their personal knowledge of the species, the amount of habitat available, the quality of the habitat, whether populations are isolated, data on the population dynamics of the

species, data on minimum viable population size, and the comments made by other scientists during peer review. Using this information, the team recommended objectives that, when reached, would indicate that the species is healthy enough to be reclassified from endangered to threatened. They also recommended recovery objectives that would indicate when protections of the ESA are no longer needed.

These recommendations were incorporated into a draft recovery plan that had input from stakeholders and was the subject of a public comment period. After analyzing public and stakeholder comments and making revisions, a final recovery plan was published that outlined recovery objectives. The wolf recovery objectives focus on numbers of wolves, numbers of populations, distribution of populations, and the likelihood of adequate future management capability.

B7) Will the Distinct Population Segment (DPS) designation result in expanding recovery activities to all states within the DPSs?

A DPS is a listed entity, like a species or subspecies listing; it is not a recovery program. The recovery programs for gray wolves in the United States have been directed by recovery plans that were prepared for the eastern, northern Rocky Mountain, and southwestern wolf populations. The designation of DPSs will not change the scope of those recovery programs and those recovery plans will continue to guide recovery activities. At this time we have no plans to restore gray wolves elsewhere in the United States.

B8) What will happen when the wolf numbers and distribution meet the recovery objectives for delisting as identified in the recovery plan?

When a species approaches or achieves its delisting criteria the Service begins a review of the species' biological status to determine if a change should be made in its Federal protective status. The Service looks at the criteria in the recovery plan, as well as the five categories of threats identified in the ESA.

B9) If the wolf has met delisting criteria, does the Service have to delist?

No. Reaching the delisting criteria is a trigger for the U.S. Fish and Wildlife Service to evaluate whether delisting the wolf is appropriate. Delisting is a formal process that includes publishing a proposal to delist in the Federal Register, opening a public comment period, holding public hearings if requested, reviewing all data including any new data provided during the comment period, and then making a decision. The final decision is published in the Federal Register.

B10) How does the U.S. Fish and Wildlife Service determine if delisting the wolf is appropriate?

The delisting objectives spelled out in the recovery plans are used as a yardstick to measure whether the species is no longer endangered or threatened. But those objectives are not the only yardstick. The ESA identifies five factors that the Fish and Wildlife Service must consider to determine if listing, reclassification, and/or delisting is appropriate:

1. Threats to, or actual destruction of, the habitat needed by the species;
2. Threats from the over-use of the species for commercial, recreational, scientific, or educational purposes;

3. Threats from disease or predation;
4. The amount of protection provided to the species or its habitat by other laws and regulations; and
5. Any other natural or manmade factors affecting the continued existence of the species.

Achievement of the recovery plan's delisting criteria triggers the Service to formally re-evaluate the species in terms of these five factors. This evaluation includes an assessment of whether these factors are likely to increase and re-endanger the wolf if it is delisted.

B11) What is the process for delisting the wolf?

The process by which a species is listed as endangered or threatened, reclassified, and eventually delisted, is called a rulemaking. The Federal rulemaking process is designed to promote public input into the decision-making process, and to provide an explanation of the decision when it is announced. For ESA listings, reclassifications, and delistings, the rule-making process has a minimum of four steps:

- C The Service publishes a proposal in the *Federal Register* which describes the proposed change and the rationale behind it. This proposal is publicized in a variety of ways to ensure that interested individuals and organizations are aware of it. It is the policy of the Service to solicit the expert opinion of independent specialists regarding the scientific or commercial data in proposed listings, reclassifications, and delistings.
- C A subsequent public comment period of at least 60 days provides an opportunity for any interested party to provide data or other comments relevant to the proposed action. If requested, the Service will hold one or more public hearings to receive oral comments.
- After the public comment period closes, the Service reviews all new data and comments received during the comment period and reconsiders the proposed action. Alternate actions or modifications of the proposal are also considered.
- C The final decision is published in the *Federal Register*, announcing the effective date of the action. In some cases the final decision may be to withdraw the proposed action or to adopt a modified version of the proposed action.

Through this process, the Service recently reclassified the gray wolf from endangered to threatened in portions of its range and delisted it in areas where the species did not historically occur.

B12) Are gray wolves going to be reintroduced to the northeastern United States?

The Service has no plans to introduce wolves in the Northeast.

B13) Are wolves going to be reintroduced to the Olympic Peninsula?

The Service has no plans and does not intend to reintroduce wolves because western gray wolf recovery objectives are being met through other means.

B14) What is being done to recover the red wolf?

Two species of wolf are found in North America: the gray wolf lived throughout most of the United States, Canada, and Mexico, and the red wolf lived only in the mid-Atlantic and

southeastern United States. The red wolf was extinct in the wild, but through recovery activities, including captive rearing, red wolves have been reintroduced into the wild.

Currently there are about 100 red wolves in the wild in northeast North Carolina, along with an additional 156 animals in captive rearing facilities. A captive breeding program has been established with 36 captive breeding facilities in the United States contributing to recovery. A total of 111 red wolves have been released since 1987 in North Carolina, and since 1991 in Great Smoky Mountains National Park. At least 140 pups have been born in the wild in North Carolina since the reintroduction program began, including approximately 90 percent of the free-ranging wolves currently found there. The red wolf reintroduction program into the Great Smoky Mountain National Park has been terminated due to low pup survival.

Specific objectives for ensuring a viable population of red wolves into the foreseeable future are identified in the recovery plan. They include maintaining a captive population of approximately 330 animals while establishing a self-sustaining wild population of approximately 220 animals.

SECTION C - ENDANGERED SPECIES ACT PROTECTIONS FOR GRAY WOLVES

C1) Why were wolves added to the Federal Endangered Species List if there were large populations of them in Canada and Alaska?

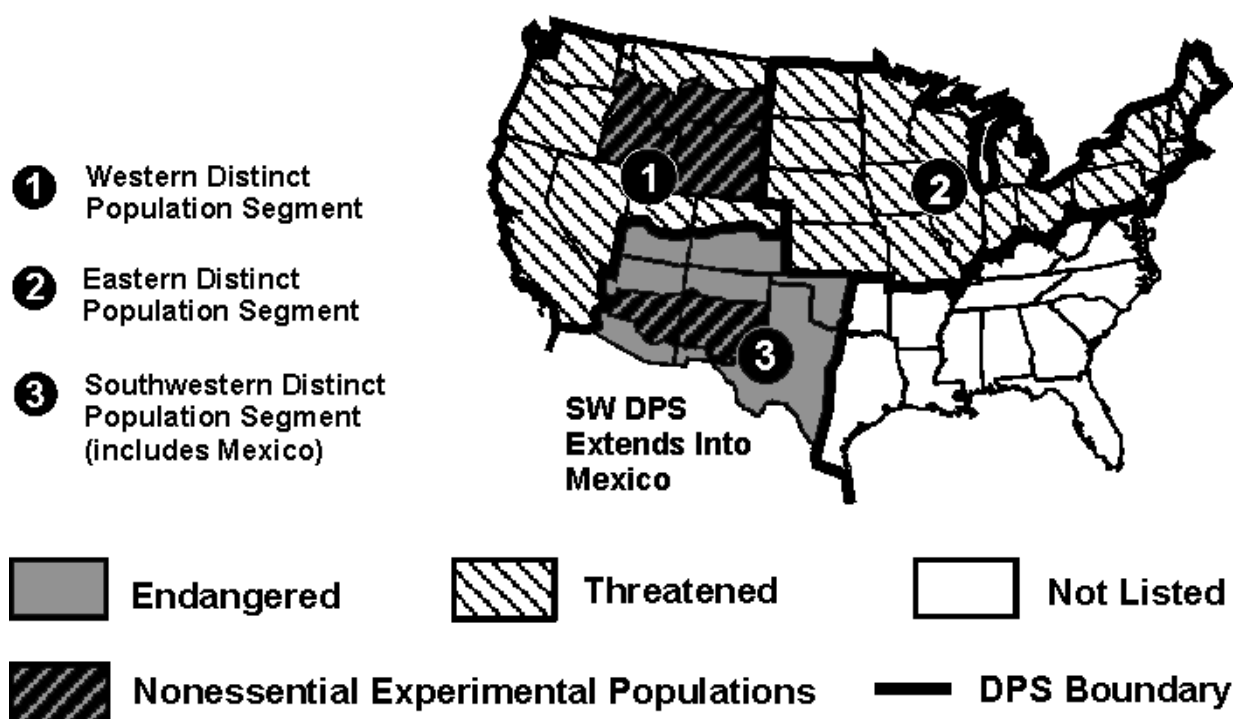
The Endangered Species Act defines “species” as a species, subspecies, or Distinct Population Segment of a vertebrate species. The ability to list and separately protect individual populations provides the flexibility to use the ESA’s conservation measures selectively for populations of a species that are currently in trouble, while leaving other, healthy populations of the same species unregulated. The Service may recognize an international boundary to identify a population segment where a significant difference occurs in the management, status, or exploitation of a species. Avoiding the extirpation of significant local populations of a species is important because a series of such local extirpations frequently leads to endangerment of the species as a whole. Also populations can be important because of the aesthetic, ecological, recreational, and other values such populations provide in their localities. In the case of the gray wolf, the species was extirpated from all the lower 48 states, except for several hundred wolves in northeastern Minnesota and a small population on Isle Royale, Michigan, at the time it was added to the threatened and endangered species list.

C2) What is the current Federal designation for gray wolves in the United States?

The Eastern and Western Gray Wolf DPSs are listed as threatened, and the Southwestern Gray Wolf DPS is listed as endangered. Also, within the Western DPS there are two areas designated as “nonessential experimental population areas,” and within the Southwestern DPS there is one “nonessential experimental population area.”

Note: please see the “Glossary” for definitions of “Distinct Population Segment” and “non-essential experimental population area.”

Status of the Gray Wolf in the Continental U.S.



C3) Why are wolves killed to protect livestock when the species is threatened?

It is important to, as quickly as possible, remove wolves that prey on domestic animals. If livestock or pets are attacked by wolves and their owners have no other recourse, they are likely to take the problem into their own hands, which increases the number of illegal wolf kills and the total number of wolves killed. In addition, wolves learn hunting behavior from each other, making it important to quickly remove wolves that prey on domestic animals, to prevent them from teaching other pack members that behavior. Lethal control is used because it generally is difficult to successfully translocate a “problem” wolf. Such animals may resume depredation at the new location, may return to their former home range, or may be killed by resident wolves at the translocation site. Additionally, euthanizing trapped wolves is significantly quicker and far less expensive than translocation, allowing depredation control activities to be carried out more quickly so other wolves do not learn to prey on livestock.

C4) What is a 4(d) rule for a threatened species, and how are such rules applied to the wolf?

Endangered species are provided the full protections of the ESA (these protections are described in Section 9 of the ESA). However, threatened species either can be provided the full protections under section 9 or the Service can develop special rules (under section 4(d) of the ESA) that are less restrictive and allow for more flexibility in management, as long as there is a conservation benefit. A 4(d) rule has been in effect for many years for the wolf in Minnesota. This 4(d) rule allows lethal control of depredating wolves by government personnel in most of Minnesota to reduce conflicts with domestic animals. This control program minimizes the number of wolves that might otherwise be illegally killed by individuals believing they have no recourse but to "take things into their own hands."

We have recently finalized two new 4(d) rules. One applies to wolves in the Western DPS outside of the experimental population areas; the other applies to much of the Eastern DPS. The Western DPS 4(d) rule is designed to allow individuals to deal with wolf depredation problems, and is similar to the existing special regulations for the experimental population areas. The Eastern DPS 4(d) rule allows lethal depredation control measures, very similar to those used in Minnesota, to be used in states west of Pennsylvania.

C5) What is the extent of verified wolf depredation?

- C Michigan (1991 thru February 2002): 10 calves, 1 cow, 1 sheep, 6 dogs (plus 2 injured).
- C Wisconsin (1991 thru December 2001): 64 calves killed (plus 4 injured and 74 missing), 1 cow, 9 sheep, 149 turkeys, 108 chickens, 149 turkeys (plus 3 missing), 49 dogs (plus 9 injured), 29 deer, 4 pheasant, and 1 guinea fowl. \$164,928 paid in compensation.
- C Minnesota (1991 thru 2000): 840 cattle, 13 horses, 3 pigs, 227 sheep, 7 goats, 7 geese, 81 ducks, 32 chickens, 6335 turkeys, 133 dogs. \$535,608 paid in compensation.
- C Northwest Montana (1987 thru 2001): 91 cattle, 68 sheep, 10 dogs, and 4 llamas. \$52,646 paid in compensation.
- C Idaho (1995 thru 2001): 56 cattle, 170 sheep, and 10 dogs. \$65,849 paid in compensation.
- C Yellowstone area (1995 thru 2001): 41 cattle, 256 sheep, and 23 dogs. \$74,533 paid in compensation.
- C Arizona (1998-2001): 29 calves (plus 3 injured), 3 cow, 1 miniature horse (injured), 1 saddle horse, and 1 dog (plus 1 injured). \$15,612 paid in compensation.

For comparison to total livestock losses in 1995, the following information was taken from the National Agricultural Statistics Service, Agricultural Statistics Board, U.S. Department of Agriculture:

- Approximately 4.3 million cattle and calves died from all causes in 1995.
- 4.2 million head were lost to weather, health, theft, poison, and other causes
- All predators accounted for 117,400 cattle or 2.7 percent of the total lost (most by coyotes).
- Approximately 370,000 sheep and lambs were lost to predators or 40 percent of all losses (most by coyotes).
- About 60 percent of all sheep and lamb losses were due to weather, health, theft and other causes.

In general, wolves do not recognize livestock as a food source and do not regularly kill livestock as an alternative to deer, elk, and other wild prey.

C6) What is the next step in the wolf recovery process?

We will continue implementing the three gray wolf recovery programs. When we determine one or more of these programs have reached the point at which recovery has been achieved, we will publish a proposal to delist gray wolves in that DPS. The proposal will be followed by a public comment period and one or more public hearings, if requested.

Due to the continuing increase in gray wolf numbers and range in the Midwest and in the northern U.S. Rocky Mountains, the Service plans to begin work on proposed delisting rules in the near future.

SECTION D - GENERAL WOLF ECOLOGY

D1) What types of areas (habitat) do wolves use?

The gray wolf is equally at home in the deserts of Israel, the deciduous forests of Wisconsin, and the frozen arctic of Siberia. Within North America, gray wolves formerly ranged from coast to coast with the exception of the mid-Atlantic and Southeast, and inhabited almost all habitat types; prairie, forest, mountains, and wetlands. Today, they are found in the forested lands of Minnesota, Wisconsin, Michigan, Montana, Idaho and Wyoming. Wolves can live almost anywhere there is abundant wild prey and adequate denning sites. The best habitat for wolves in the West is wilderness where both these needs are met. The wolf has expanded in Minnesota and Wisconsin to areas that are a mix of forest and agriculture. The Mexican gray wolf has been reintroduced into the mountains of the Apache National Forest in Arizona and translocated into the Gila National Forest in New Mexico.

D2) Do wolves need wilderness areas to survive?

It was thought that gray wolves were a wilderness species and could only survive there. But the recent expansion of wolves in Minnesota has shown they are more adaptable and can tolerate more human disturbance than previously thought. Wolves are expanding into areas once thought incapable of supporting them. It now appears that wolves can survive anywhere there is sufficient food and human tolerance to allow their existence.

D3) Can wolves survive near urban areas?

From a biological standpoint, we know that wolves can and do survive near urban areas. Ultimately however, whether wolves survive near urban areas in the long-term will be dependent on people rather than wolves. There are areas near large cities and urban areas that have a sufficient wild prey base to support wolves. However, wolves are predators and will kill livestock and domestic animals. These conflicts, along with urban hazards such as vehicle traffic, will likely limit the establishment of wolf populations in urban areas.

D4) How far do wolves travel?

Wolf packs usually hunt within a specific territory. Territories may be as large as 50 square miles or even extend to 1,000 square miles depending on food availability. Wolves often cover large areas to hunt, traveling as far as 30 miles a day. Although they trot along at five mph, wolves can attain speeds as high as 45 mph. Most wolves disperse from the pack they were born into by age three. Dispersing wolves are known to have traveled as far as 550 miles.

D5) What do wolves eat?

In the Midwest, wolves eat mainly white-tailed deer but they also eat moose, beaver, snowshoe hare, and other animals. In the Rocky Mountains, wolves feed on elk, deer, moose, bison, and beaver. Wolves even eat some insects, small mammals, nuts, and berries. They may not eat for a week or more but are capable of eating 20 pounds of meat in a single meal.

D6) If wolf numbers get too high will deer and elk be eliminated?

No. The health of the wolf population is dependent on the health of its prey base. Wolves are dependent on deer and elk as their main prey species. If deer and elk numbers were to decline over an extended period of time (generally due to severe winter conditions or habitat changes), wolf productivity (the number of young produced) and survival would also decline. Thus, wolf numbers would decline before their prey could be eliminated.

D7) How do wolves in an area affect deer and elk hunting?

In general, wolves help to maintain healthy herds by removing old and sick animals. This culling supports healthy deer and elk populations and corresponding good hunting opportunities because deer and elk populations are more likely to stay at or near the carrying capacity of the available habitat. However, when weather events occur which reduce the ability of the habitat to support deer and elk (like deep snowfalls, drought, etc.) then wolves will reduce deer and elk numbers even further. For example, since wolves have been protected in northern Minnesota, there has been a high and even increasing harvest of deer by hunters since the mid-1970s. But two consecutive hard winters (1995-96 and 1996-97) reduced the size of the State's northern deer herd, which in turn resulted in much lower deer harvests. Wolves likely were accountable for a portion of the lower deer numbers and, in turn, the lower deer harvest. Subsequent mild winters have now resulted in a rebounding of the deer herd, despite the increasing wolf population. The Minnesota deer harvest of 2001 was over 200,000 deer, nearly a record level. In the West, wolf predation was generally predicted to have little effect on hunting opportunities, except for some late-season cow elk hunting.

D8) Do wolves really take the old, young, sick, and weak animals?

It is well-documented that wolves tend to take mainly old, young, sick, starving, or injured prey. Hunting and bringing down big game is dangerous work for a wolf, and wolves are sometimes killed by elk, moose, and even deer. In the wild they cannot afford to be injured, therefore, they go after the safest animals to kill.

D9) Does the presence of wolves affect the numbers of animals other than deer and elk?

Yes. As one of the top predators in the food chain, wolves make a definite impact on their ecosystem. Yellowstone National Park and the surrounding area have provided a good opportunity to document the effect that wolves can have on other animals. Within two years of the wolf reintroduction, researchers found that wolves had killed half the coyotes in the area, forced elk to become more vigilant, and provided many opportunities for scavengers to share their kills. Because there are fewer coyotes, rodents and small animals such as fox may be more plentiful, a boon for predators like hawks and bald eagles, and overall biodiversity has sharply increased.

D10) Do wolves mate for life?

Sometimes. A wolf pair may mate until one dies and then the living mate will find another mate. If the surviving mate is old, it may be replaced as the alpha animal by a younger wolf.

D11) What is a wolf pack?

The wolf pack is an extended family unit that usually includes a dominant male and female. These animals are referred to as the alpha pair. The pack also contains the young wolves born that year, perhaps last year's young and sometimes a few older wolves that may or may not be related to the alpha pair.

D12) How many wolves are in a pack?

Pack sizes vary considerably, depending on the size of the wolf population in a particular area, whether they are feeding pups and the amount of prey available. Average pack size in the Midwest varies from four to eight during winter with records of up to 16. In the northern Rocky Mountains, packs average about 10 wolves, but one pack in Yellowstone had 37 members. Pack size can be as high as 30 or more in parts of Canada and Alaska.

D13) What happens to a pack when the alpha male or female are killed?

In a study of a protected population, the death of one or both members of the alpha pair either led to dissolution of the pack or the pack survived with existing pack members becoming alpha animals. Packs sometimes adopt unrelated dispersing wolves that can also become alpha members of the pack. When packs dissolved after the death of an alpha animal, new packs formed in those areas.

D14) How long do wolves live?

Gray wolves are known to live up to 13 years in the wild and 15 years in captivity.

D15) In protected populations, what kills wolves?

In natural situations wolves die from pup starvation and adults killing members of neighboring packs. Mortality of adults can also come from starvation if the prey base is not adequate. Diseases, such as canine parvovirus and mange, also kill wolves, especially pups. Sometimes adult wolves are killed by intended prey animals.

D16) Do wolves usually kill more than they can eat?

Sometimes deep snow or other conditions occur which allow wolves to kill more than they can eat, although this occurs infrequently. Even then, they tend to return to these kills.

D17) Are wolves a threat to humans, in particular small children?

Any wild animal can be dangerous if it is cornered, injured or sick, or has become habituated to humans through artificial feeding at campgrounds, etc. People should avoid actions that encourage wolves to spend time near humans. However, aggressive behavior from wild wolves towards humans is extremely rare. Wild wolves are generally shy of humans and avoid contact with them whenever possible. In contrast, several humans are killed by domestic dogs, pet wolves, and wolf-dog hybrids every year in North America. Wolves and wolf-dog hybrids kept as pets can be unpredictable and dangerous.

D18) Is there any danger from wolves to my pets?

Pets should always be carefully monitored by their owners in areas such as national forests or parks where they may encounter native wildlife, to protect both pets and the wildlife.

Unsupervised dogs which stray from their owner's homes or from their handlers into wolf territories are definitely at risk. Wolves will treat dogs as interlopers on their territories and may attack and kill them, especially if the wolves have pups.

D19) How can I learn more about wolves and the things that are going on right now that will affect their future?

The Service has established a mailing list to alert interested parties of the status of the gray wolf and the progress being made toward its recovery. Individuals and organizations can join this mailing list by either writing to: U.S. Fish and Wildlife Service, Gray Wolf Review, 1 Federal Drive, Fort Snelling, MN 55111-4056, by e-mailing to graywolfmail@fws.gov, or calling the Gray Wolf Line at 612-713-7337.

In addition, the Service will post information on the wolf and potential changes in Federal protection on the Web at <http://midwest.fws.gov/wolf>. The Service also posts information at <http://northerngraywolf.fws.gov> and <http://ifw2es.fws.gov/wolf/>.

SECTION E - GLOSSARY

Delisting: Delisting is taking a species off the list of threatened and endangered species when the population has recovered. Delisting is a formal rulemaking process that requires publication of a proposal to delist in the *Federal Register*, followed by a public comment period. The information received during the public comment period is reviewed, a decision is made whether to delist, and the decision is published in the *Federal Register*. Species are also delisted if they become extinct or were originally listed in error.

Distinct Population Segment: In addition to the listing and delisting of species and subspecies, the ESA allows the listing/delisting of Distinct Population Segments of vertebrate species (i.e., animals with backbones: mammals, birds, fish, reptiles, and amphibians). A Distinct Population Segment is a portion of a species' or subspecies' population or range. The Distinct Population Segment is generally described geographically, such as "all members of XYZ species that occur north of 40° north latitude." (For more information on Distinct Population Segments, see the fact sheet entitled *Little-Known But Important Features of the Endangered Species Act*.)

Endangered: Any species, subspecies, or Distinct Population Segment which is in danger of extinction throughout all or a significant portion of its range.

Non-Essential Experimental Population: A reintroduced population believed not to be essential for the survival of the species, but important for its full recovery and eventual removal from the endangered and threatened list. These populations are treated as "threatened" species except that the ESA's section 7 consultation regulations (requiring consultation with the U.S. Fish and Wildlife Service to reduce adverse impacts from Federal actions) do not apply (except where the species occurs within National Parks or National Wildlife Refuges) and critical habitat

cannot be designated. (For more information on Experimental Populations, see the fact sheet entitled *Little-Known But Important Features of the Endangered Species Act*.)

Reclassification: Reclassification is a process of changing the status of a listed species from endangered to threatened or vice versa. It is a formal rulemaking process that requires that a proposal to reclassify be published in the *Federal Register* followed by a public comment period. Information received during the public comment period is then evaluated and a determination on whether to reclassify is made and published.

Recovery: Recovery is the goal of the Endangered Species Act. Recovery is a process of management and protection of a species so that its population(s) can increase and expand and/or the factors threatening it have been significantly reduced. When a species has been “recovered” it means that the species’ population is strong enough that protection under the Endangered Species Act is no longer needed.

Threatened: Any species, subspecies, or Distinct Population Segment which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. The Endangered Species Act recognizes that “threatened” species may not need all the protections that “endangered” species do. Therefore, special rules can be developed for threatened species which allow greater flexibility in management, as long as the increased flexibility will promote the conservation of the species. It is such a special rule that spells out the conditions under which Minnesota wolves preying on domestic animals may be controlled.

Viable Population: Viable means that the population will continue to breed and maintain itself over time (i.e, the number of young produced is equal to or greater than the number that die). A viable population must be sufficiently large to prevent genetic problems such as inbreeding. The population must also be large enough and distributed across a large enough area that catastrophic events such as disease or severe weather will not likely eliminate the entire population.